General

Guideline Title

Allergic rhinitis.

Bibliographic Source(s)

University of Michigan Health System. Allergic rhinitis. Ann Arbor (MI): University of Michigan Health System (UMHS); 2013 Oct. 17 p. [4 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: University of Michigan Health System. Allergic rhinitis. Ann Arbor (MI): University of Michigan Health System (UMHS); 2007 Oct. 12 p. [3 references]

Recommendations

Major Recommendations

Note from the University of Michigan Health System (UMHS) and the National Guideline Clearinghouse (NGC): The following guidance was current as of October 2013. Because UMHS occasionally releases minor revisions to its guidance based on new information, users may wish to consult the original guideline document for the most current version.

Note from NGC: The following key points summarize the content of the guideline. Refer to the full text of the original guideline document for detailed information on each of the screening procedures.

The strength of recommendation (I-III) and levels of evidence (A-D) are defined at the end of the "Major Recommendations" field.

Key Aspects & Recommendations

Diagnosis

Allergic rhinitis is an antigen-mediated inflammation of the nasal mucosa that may extend into the paranasal sinuses. Diagnosis is usually made by history and examination ("itchy, runny sneezy, stuffy"). A symptom diary and a trial of medication may be helpful to confirm a diagnosis. Allergy testing is not commonly needed to make the diagnosis, but may be helpful for patients with multiple potential allergen sensitivities.

Therapy

The goal of therapy is to relieve symptoms.

1. Avoidance of allergens is the first step *[IA]*. (Refer to text in the original guideline document for details). If avoidance fails:
2. An over-the-counter (OTC), non-sedating antihistamine (loratadine [Claritin], cetirizine [Zyrtec], fexofenadine [Allegra]) should be tried initially. They provide relief in most cases. They prevent and relieve nasal itching, sneezing, and rhinorrhea, and ocular symptoms, but tend to be less effective for nasal congestion *[IA]*. If symptoms persist consider the following options:
3. Other medications:
    - Intranasal corticosteroids (prescription only) are the most potent medications available for treating allergic rhinitis *[IA]*. They control itching, sneezing, rhinorrhea, and stuffiness in most patients, and may help ocular symptoms. They have a relatively good long-term safety profile. Generic intranasal corticosteroids for adults and children are: fluticasone (Flonase), triamcinolone acetonide (Nasacort AQ), and flunisolide (Nasarel).
    - Oral decongestants (OTC) decrease swelling of the nasal mucosa which, in turn, alleviates nasal congestion *[IA]*. They can be combined with oral antihistamines or other agents. However, they are associated with appreciable side effects, especially in geriatric patients, and should only be considered when congestion is not controlled by other agents. They are contraindicated with monoamine oxidase inhibitors (MAOIs), in uncontrolled hypertension, and in severe coronary artery disease and benign prostatic hyperplasia (BPH).
    - Leukotriene inhibitors (prescription-only) are less effective than intranasal corticosteroids *[IIA]*. Consider using for patients who cannot tolerate first line agents or have co-morbid asthma.
    - Intranasal cromolyn (OTC) is less effective than intranasal corticosteroids *[IIA]*. Cromolyn is a good alternative for patients who are not candidates for corticosteroids. It is most effective when used regularly prior to the onset of allergic symptoms.
    - Intranasal antihistamines (azelastine), while effective in treating the nasal symptoms associated with seasonal and perennial rhinitis and nonallergic vasomotor rhinitis, offer no therapeutic benefit over conventional treatment and incur additional cost *[IIA]*.
    - Ocular preparations should be considered for patients with allergic conjunctivitis who are not adequately controlled with or cannot tolerate an oral antihistamine or high dose nasal steroids, which do provide some improvement in ocular symptoms *[IIA]*.

Referral

Appropriate criteria for referral may include identification of specific allergens through testing, intolerance to or failure of medical therapy, severe reactions, associated comorbid conditions, or desire for immunotherapy *[ID]*.

Controversial Issues

Medication vs. immunotherapy. A formal cost-benefit analysis of medication therapy versus immunotherapy (allergy shots) has not been performed; however, patients with moderate to severe symptoms that continue year round (seasonal or perennial allergic rhinitis) may benefit most from immunotherapy *[IID]*. Allergen immunotherapy can be cost effective in children with asthma.

Special Considerations. Certain patient groups (pediatrics, geriatrics, and severe asthmatics) may pose diagnostic and therapeutic challenges.

Definitions:

Levels of Evidence

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational trials
D. Opinion of expert panel

Strength of Recommendation

I. Generally should be performed
II. May be reasonable to perform
III. Generally should not be performed

Clinical Algorithm(s)

An algorithm titled "Treatment of Allergic Rhinitis" is provided in the original guideline document.

Scope

Disease/Condition(s)

Allergic rhinitis

Guideline Category

Diagnosis

Management

Treatment

Clinical Specialty

Allergy and Immunology

Family Practice

Geriatrics

Internal Medicine

Otolaryngology

Pediatrics

Intended Users

Advanced Practice Nurses

Nurses

Pharmacists

Physician Assistants

Physicians

Guideline Objective(s)

To assist in the diagnosis and cost-effective treatment of allergic rhinitis

Target Population

Adults and children with presumed or confirmed allergic rhinitis

Interventions and Practices Considered

Diagnosis

1. History and physical examination
2. Symptom diary
3. Trial of medication
4. Allergy testing

Therapy

1. Avoidance of allergens
2. Over-the-counter (OTC) non-sedating antihistamine
3. Other medications:
    - Intranasal corticosteroids (prescription only)
    - Oral decongestants (OTC)
    - Leukotriene inhibitors (prescription only)
    - Intranasal cromolyn (OTC)
    - Intranasal antihistamines
    - Ocular preparations
4. Immunotherapy
5. Allergist/specialist referral
6. Special considerations for certain patient groups:
    - Pediatrics
    - Geriatrics
    - Severe asthmatics

Major Outcomes Considered

- Incidence, frequency, and severity of allergy symptoms
- Medication side effects
- Cost-effectiveness of treatment

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The literature search for this update began with the results of the literature searches performed for the 2002 and 2007 versions of this guideline. Also referenced was the search performed for Allergic Rhinitis and its Impact on Asthma (ARIA) 2010 revision. Geneva: World Health Organization (WHO), which included literature through August 2007. A search for literature published since that time was performed. The search on Medline was conducted prospectively for literature published from 8/1/07 to 3/30/12 using the major keywords of: allergic rhinitis, human (adult and pediatric), English language, clinical guidelines, controlled trials and meta analyses, and cohort studies. Separate searches were performed for: history (inciting factors, seasonality, family history, severity & severity scoring), physical exam, signs, symptoms (nasal exam for changes in mucosa, conjunctival changes), laboratory (nasal smear for presence of eosinophils, skin testing, RAST), Diagnosis–other references, control triggers, corticosteroids (intra-nasal, ocular), antihistamines (intra-nasal, oral, ocular), leukotriene inhibitors/modulators, decongestants (intra-nasal, ocular, oral), mast cell stabilizers (intra-nasal, ocular), non-steroidal anti-inflammatory (ocular), anticholinergics (intra-nasal), omalizumab, saline irrigation to remove allergens (nasal spray, eye wash), immunotherapy/allergy shots or inhaler, turbinate reduction surgery, integrative/alternative/complementary medicine, pregnancy and lactation), treatment or management–other references, geriatric patients, cost and cost-effectiveness, other references.

The search was conducted in components each keyed to a specific causal link in a formal problem structure (available upon request). The search was supplemented with recent clinical trials known to expert members of the panel. Negative trials were specifically sought. The search was a single cycle.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Level of Evidence

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational trials
D. Opinion of expert panel

Methods Used to Analyze the Evidence

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Conclusions were based on prospective randomized clinical trials (RCTs) if available, to the exclusion of other data; if RCTs were not available, observational studies were admitted to consideration. If no such data were available for a given link in the problem formulation, expert opinion was used to estimate effect size.

Rating Scheme for the Strength of the Recommendations

Strength of Recommendation

I. Generally should be performed
II. May be reasonable to perform
III. Generally should not be performed

Cost Analysis

A formal cost analysis was not performed and published analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Drafts of this guideline were reviewed in clinical conferences and by distribution for comment within departments and divisions of the University of

Michigan Medical School to which the content is most relevant: Allergy, Family Medicine, General Internal Medicine, General Pediatrics, and Otolaryngology. The guideline was approved by the UM C. M. Mott Children Hospital's Pediatric Medical Surgical Joint Practice Committee and Executive Committee. The final version was endorsed by the Clinical Practice Committee of the University of Michigan Faculty Group Practice and the Executive Committee for Clinical Affairs of the University of Michigan Hospitals and Health Centers.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Conclusions were based on prospective randomized clinical trials (RCTs) if available, to the exclusion of other data; if RCTs were not available, observational studies were admitted to consideration. If no such data were available for a given link in the problem formulation, expert opinion was used to estimate effect size.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Accurate diagnosis and cost-effective treatment of allergic rhinitis
- Relief of symptoms of allergic rhinitis

Potential Harms

- Oral decongestants (including combination products containing a decongestant) should be used with caution in patients with unstable hypertension, ischemic heart disease, glaucoma, prostatic hypertrophy, or diabetes mellitus.
- Geriatric patients may be more sensitive to the effects of decongestants.
- Nasal cromolyn is reserved for patients who are not well-controlled or do not tolerate oral antihistamines or intranasal steroids. The four times daily dosing can cause compliance problems.

Refer to Table 8 in the original guideline document for common or serious side effects associated with medical therapy for allergic rhinitis.

Contraindications

Contraindications

Oral decongestants are contraindicated with monoamine oxidase inhibitors (MAOIs), in uncontrolled hypertension, and in severe coronary artery disease and benign prostatic hyperplasia (BPH).

Qualifying Statements

Qualifying Statements

These guidelines should not be construed as including all proper methods of care or excluding other acceptable methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding any specific clinical procedure or treatment must be made by the physician in light of the circumstances presented by the patient.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Clinical Algorithm

Patient Resources

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

University of Michigan Health System. Allergic rhinitis. Ann Arbor (MI): University of Michigan Health System (UMHS); 2013 Oct. 17 p. [4 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2002 Jul (revised 2013 Oct)

Guideline Developer(s)

University of Michigan Health System - Academic Institution

Source(s) of Funding

University of Michigan Health System

Guideline Committee

Allergic Rhinitis Guideline Team

Composition of Group That Authored the Guideline

Team Leader: David A. DeGuzman, MD, General Medicine

Team Members: Catherine M. Bettcher, MD, Family Medicine; R Van Harrison, PhD, Medical Education; Christine L. Holland, MD, Allergy; Lauren M Reed, MD, Pediatrics; Tami L Remington, PharmD, Pharmacy; Mark A Zacharek, MD, Otolaryngology

Ambulatory Clinical Guidelines Oversight: Grant Greenberg, MD, MA, MHSA; R Van Harrison, PhD

Financial Disclosures/Conflicts of Interest

The University of Michigan Health System endorses the Guidelines of the Association of American Medical Colleges and the Standards of the Accreditation Council for Continuing Medical Education that the individuals who present educational activities disclose significant relationships with commercial companies whose products or services are discussed. Disclosure of a relationship is not intended to suggest bias in the information presented, but is made to provide readers with information that might be of potential importance to their evaluation of the information.

Team Member	Company	Relationship
Catherine Bettcher, MD	(none)	
David DeGuzman, MD	(none)	
R. Van Harrison, PhD	(none)	
Christine Holland, MD	(none)	
Lauren M. Reed, MD	(none)	
Tami L. Remington, PharmD	(none)	
Mark A. Zacharek, MD	Entellus, Teva Respiratory	Consultant

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: University of Michigan Health System. Allergic rhinitis. Ann Arbor (MI): University of Michigan Health System (UMHS); 2007 Oct. 12 p. [3 references]

Guideline Availability

Electronic copies: Available from the University of Michigan Health System Web site .

Availability of Companion Documents

Continuing Medical Education (CME) information is available from the University of Michigan Health System Web site.

Patient Resources

The following are available:

- Allergic rhinitis. Ann Arbor (MI): University of Michigan Health System; 2012 Jan. 6 p. Electronic copies: Available in Portable Document Format (PDF) from the University of Michigan Health System (UMHS) Web site.
- Saline nasal sprays & irrigation. Ann Arbor (MI): University of Michigan Health System; 2011 Sep. 2 p. Electronic copies: Available in PDF from the UMHS Web site.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI on January 7, 2003. The information was verified by the guideline developer on February 4, 2003. This NGC summary was updated by ECRI Institute on January 22, 2008. The updated information was verified by the guideline developer on February 11, 2008. This summary was updated by ECRI Institute on November 17, 2008 following the U.S. Food and Drug Administration advisory on OTC cough and cold medications. This NGC summary was updated by ECRI Institute on December 12, 2013.

Copyright Statement

Disclaimer

NGC Disclaimer